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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,622

06/01/2006

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KIT-404

9658

24972 7590 06/10/2009
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EXAMINER

NGUYEN, SON T

ART UNIT

PAPER NUMBER

3643

MAIL DATE

DELIVERY MODE

06/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,622	Applicant(s) HASHIMOTO ET AL.	
	Examiner Son T. Nguyen	Art Unit 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 11,15,16,19** are rejected under 35 U.S.C. 102(b) as being anticipated by Kistner (Re.32476).

For claim 11, Kistner teaches a plant cultivating substrate produced by reacting: a water-retentive filling material (col. 5,lines 20-27), water (col. 2,line 30), urethane prepolymer (col. 2,lines 37-50) and a polyol (col. 2,line 40,col. 3,lines 51-65) under conditions which form a plant cultivating substrate (col.5,lines 42-58) with reduced hardness, improved shape retentivity and enhanced absorptivity (col. 1,lines 30-37, 55-69, col. 2,lines 1-7).

For claim 15, Kistner teaches wherein said urethane prepolymer contains an isocyanate group (col. 2,lines 40-45,65-69).

For claim 16, Kistner teaches wherein said urethane prepolymer is formed by reacting toluene diisocyanate with a polyol (col. 4,lines 10-55).

For claim 19, Kistner teaches wherein said water- retentive filling material comprises: peat moss, coco peat, sawdust, coconut husk, chaff, chaff compost, dark compost, perlite, vermiculite, or hydrophilic foam resin pulverized powder (col. 5,lines 20-26).

Art Unit: 3643

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 12-14,17,18,20-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kistner (as above).

For claim 12, Kistner teaches wt. % in col. 6, lines 25-3 and in his examples but is silent about an example being wherein said water retentive filling material under dry conditions is from 15 to 60 wt. % of said plant cultivating substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the water retentive filling material under dry conditions in the substrate of Kistner be from 15 to 60 wt. % of said plant cultivating substrate, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 13, Kistner teaches polyol but is silent about the polyol contains an ester group. It would have been obvious to one having ordinary skill in the art at the time

Art Unit: 3643

the invention was made to employ an ester group in the polyol of Kistner, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use (more potent or not) as a matter of obvious choice.

For claim 14, Kistner teaches wt. parts for the polyol in col. 6, lines 27-30 and in his examples but is silent about wherein the polyol is present in an amount of from 0.1 to 300 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the polyol of Kistner be present in an amount of from 0.1 to 300 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 17, Kistner teaches wt. parts for the urethane prepolymer in col. 6, lines 23-35 and in his examples but is silent about wherein said urethane prepolymer is present in an amount of from 50 to 300 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the urethane prepolymer of Kistner be present in an amount of from 50 to 300 weight parts, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

Art Unit: 3643

For claim 18, Kistner teaches wt. parts for the urethane prepolymer in col. 6, lines 23-35 and in his examples but is silent wherein said urethane prepolymer is present in an amount of from 120 to 200 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the urethane prepolymer of Kistner be present in an amount of from 120 to 200 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 20, Kistner is silent about wherein the substrate has water absorptivity of from 25% to 75% by weight relative to the weight of said plant cultivating substrate, hardness of from 20N to 40N, and restoring force of from 4N to 10N. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the substrate of Kistner with a water absorptivity of from 25% to 75% by weight relative to the weight of said plant cultivating substrate, hardness of from 20N to 40N, and restoring force of from 4N to 10N, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 21, Kistner teaches a method of manufacturing a plant cultivating substrate (col. 1, lines 38-47, col. 5, lines 42-58) comprising reacting and curing (col. 2, lines 28-36, col. 3, lines 6-15, col. 4, line 55, col. 5, lines 55-58) (i) a water-retentive filling

Art Unit: 3643

material (col. 5, lines 20-26), (ii) water (col. 2, line 30), (iii) a urethane prepolymer (col. 2, lines 37-50) and (iv) a polyol (col. 2, line 40, col. 3, lines 51-65), thereby providing said plant cultivating substrate with reduced hardness, improved shape retentivity and enhanced absorptivity (col. 1, lines 30-37, 55-69, col. 2, lines 1-7). Kistner teaches wt. % in his examples but is silent wherein said water-retentive filling material under dry conditions is from 15 to 60 wt. % of said plant cultivating substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the water-retentive filling material of Kistner under dry conditions be from 15 to 60 wt. % of said plant cultivating substrate, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 22, Kistner teaches mixing the ingredients depends on the intended use of the substrate (col. 5, lines 28-40, 52-68, col. 6, lines 1-13), thus, Kistner does not specifically states (i) mixing the water-retentive filling material with said water to form a first suspension, (ii) adding said urethane prepolymer and said polyol to said first suspension and mixing to form a second suspension, (iii) reacting and curing said second suspension to obtain the plant cultivating substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the steps of (i) mixing the water-retentive filling material with said water to form a first suspension, (ii) adding said urethane prepolymer and said polyol to said first suspension and mixing to form a second suspension, (iii) reacting and curing said

Art Unit: 3643

second suspension to obtain the plant cultivating substrate in the method of Kistner, depending on the user's intended use of the substrate as stated by Kistner.

For claim 23, Kistner teaches wt. parts for the polyol in col. 6, lines 27-30 and in his examples but is silent about wherein the polyol is present in an amount of from 0.1 to 300 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the polyol in the method of Kistner be present in an amount of from 0.1 to 300 weight parts relative to 100 weight parts of the water-retentive filling material under dry conditions, depending on the type of plant grown in the substrate because each plant type required different ingredients in the substrate and depending on the potency of the substrate for the plant to grow therein.

For claim 24, Kistner teaches polyol but is silent about the polyol contains an ester group. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an ester group in the polyol of the method of Kistner, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use (more potent or not) as a matter of obvious choice.

For claim 25, Kistner teaches wherein said reacting and curing takes place in a substrate forming mold having a top and a bottom (col. 5, lines 42-58).

For claim 26, Kistner is silent about wherein said manufacturing is effected such that an upper face of the plant cultivating substrate is located on the bottom of said substrate forming mold. It would have been obvious to one having ordinary skill in the

Art Unit: 3643

art at the time the invention was made to manufacture the substrate of Kistner such that an upper face of the plant cultivating substrate is located on the bottom of said substrate forming mold, depending on the user's preference to employ such known molding process or another known molding process.

For claim 27, Kistner teaches wherein said water-retentive filling material comprises: peat moss, coco peat, sawdust, coconut husk, chaff, chaff compost, dark compost, perlite, vermiculite, or hydrophilic foam resin pulverized powder (col. 5, lines 20-26).

Response to Arguments

6. Applicant's arguments filed 4/1/09 have been fully considered but they are not persuasive.

Applicant argued that Kistner fails to teach or suggest reacting polyol with a water-retentive filling material, water and urethane prepolymer to provide the claimed plant cultivating substrate with reduced hardness, improved shape retentivity or restorability and enhanced water absorptivity.

For the apparatus claim 1, clearly, Kistner teaches the apparatus, i.e. substrate, comprising a water-retentive filling material, water, urethane prepolymer, and polyol as explained in the above rejection. Even though the polyol is pre-made/mix with the urethane prepolymer in another step, when all ingredients are combined, they are all mixed together to create the substrate. In addition, claim 1 is a product claim, thus, the process is not given patentable weight: product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps; "even though

Art Unit: 3643

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 227 USPQ 964. See also MPEP 2141.02. Moreover, col. 1, lines 30-37, 55-69, col. 2, lines 1-7, of Kistner discuss the substrate that is produced will display reduced hardness (due to the polyol added), improved shape retentivity (resilient and stable to be used on hillside or sand slopes or high traffic area such as park, playground (col. 1, lines 48-50), and enhanced absorptivity (hydrophilic or spongy nature).

For the method claims 21-22, the steps as claimed are the same as that of Kistner. As claimed in claim 22 (claim 22 is chosen for discussion because it is more specific as to how the method is performed), the first step is mixing the filling material with water to form a first suspension, to which Kistner teaches in col. 2, lines 28-30. The next step is adding urethane prepolymer and polyol, to which the polyol is already in the urethane prepolymer as mixed in col. 2, lines 37-40, to the first suspension and mixing to form a second suspension. Finally, reacting (inherent when the ingredients are added since they will react with one another) and curing (col. 2, line 31) the second suspension to obtain the substrate. Hence, Kistner clearly teaches all steps that are required to make the substrate of Applicant.

Applicant argued that Kistner does not teach the percentages of the ingredients as claimed in claims 12-14, 17, 18, 20-27.

Art Unit: 3643

Kistner teaches the ingredients making up his substrate as explained in the above. However, Kistner does not specifically teaches the ranges as claimed by Applicant because Kistner states in col. 5, lines 28-68, col. 6, lines 1-50, that it would depend on the intended use of his substrate. Hence, one of ordinary skill in the art would use whatever desired percentage concentration of the ingredients in making Kistner's substrate, depending on the intended use and the desired potency he or she wishes the substrate to have. This is no different from Applicant because throughout Applicant's disclosure, Applicant lists percentages but these percentages are only preferably because it would depend on the intended use of Applicant's substrate.

Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. In re Dreyfus, 22 CCPA (Patents) 830, 73 F.2d 931, 24 USPQ 52; In re Waite et al., 35 CCPA (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such ranges are termed "critical" ranges, and the applicant has the burden of proving such criticality. In re Swenson et al., 30 CCPA (Patents) 809, 132 F.2d 1020, 56 USPQ 372; In re Scherl, 33 CCPA (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. In re Sola, 22 CCPA (Patents) 1313, 77 F.2d 627, 25 USPQ 433; In re Normann et al., 32 CCPA (Patents) 1248, 150 F.2d 627, 66 USPQ 308; In re Irmischer, 32 CCPA (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general

Art Unit: 3643

conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Swain et al., 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136. In Applicant's case, these ranges of concentration are not inventive because one of ordinary skill in the art can discover these ranges through routine experimentation, depending on the intended use of the substrate.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

Art Unit: 3643

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son T. Nguyen/
Primary Examiner, Art Unit 3643